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09/961,147	09/24/2001	Takushi Fujita	1573.1007	5366

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EXAMINER

VU, THANH T

ART UNIT	PAPER NUMBER
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2174

DATE MAILED: 11/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/961,147	<b>Applicant(s)</b> FUJITA ET AL.	
	<b>Examiner</b> Thanh T. Vu	<b>Art Unit</b> 2174	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/07/2006</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

This communication is responsive to Amendment, filed 10/19/2006.

Claims 1-26 are pending in this application. In the Amendment, claims 8-11, 13, 14, and 26 were amended.

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6-8, 10-11, 13-18, 20-22 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robertson et al. ("Robertson", US 6,486,895), Mackinlay (U.S. Pat. No. 6,088,032), and Robertson et al. ("Robertson" U.S. 5,295,243).

As per claim 1, Robertson '895 teaches an information processing apparatus for displaying a an information object in a virtual space according to visual field data, where the information object represents one or more respective content items of content type, and where said visual field data defines a visual field in said virtual space, said apparatus comprising:

holding means for holding, in an executable manner, a plurality of intermediate data  
generating means specific to said respective link content items of different content types of  
information object for generating respective pieces of intermediate data specific to a content type  
of a particular linked content item of the information object, said generated piece of intermediate  
data comprising at least either of texture data and display form defining data, (figs. 2 and 15, step

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202, *generate page objects for each web page*, col.5, lines 50-52; fig 3, textual data 302 and 303), and for holding, in an executable manner a plurality of different display image generating means specific to said respective link content items of different content types of the information object for generating respective display images from said respective generated pieces of intermediate data (figs. 2 and 15, step 204, *render and display*, col.5, lines 57-58);

Robertson '895 does not teach first means for causing said plurality of intermediate data generating means to generate the respective pieces of intermediate data for displaying a particular linked content item of the information object, according to a geometric relation between said visual filed and said particular link content item of the information object; a memory for storing the generated pieces of intermediate data for rendering a display image; and second means for causing said plurality of different display image generating means to generate display images of said particular link content item of the information object from said respective generated pieces of intermediate data to render the display image on a display memory region, according to a geometric relation between said visual filed and said particular linked content item of the information object. However, Mackinlay teaches first means for causing said plurality of intermediate data generating means to generate the respective pieces of intermediate data for displaying a particular linked content item of the information object, according to a relation between said visual filed and said particular link content item of the information object (figs. 15 and 16; col. 3, lines 43-57; col. 11, lines 20-30 and lines 57-67; col. 12, lines 20-55); a memory for storing the generated pieces of intermediate data for rendering a display image (col. 7, lines 42-48); and second means for causing said plurality of different display image generating means to generate display images of said particular link content item of the information object from said

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respective generated pieces of intermediate data to render the display image on a display memory region, according to a relation between said visual filed and said particular linked content item of the information object (figs. 15 and 16; col. 3, lines 43-57; col. 11, lines 20-30 and lines 57-67; col. 12, lines 20-55). Robertson '243 teaches generating the respective pieces of intermediate data for displaying a particular linked content item of the information object, according to a geometric relation between said visual filed and said particular link content item of the information object (figs 1-6; col. 1, lines 48-64; col. 2, lines 1-27), and generating means to generate display images of said particular link content item of the information object from said respective generated pieces of intermediate data to render the display image on a display memory region, according to a geometric relation between said visual filed and said particular linked content item of the information object (figs. 1-6; col. 1, lines 48-64; col. 2, lines 1-27).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the teaching of Mackinlay and Robertson '243 in the invention of Robertson '895 in order to provide a user interface for displaying and navigating through a collections of related documents, and to provide techniques for presenting a three-dimensional node-link structure with a hierarchical geometry within which the relative positions of nodes and links can change without losing the perceived object constancy of the nodes or inks or of the structure as a whole.

As per claim 2, Robertson '895 teaches the information processing apparatus according to claim 1 wherein each intermediate data generating means and each display image generating means operate asynchronously with each other for a respective content type of a particular linked content item of information object (FIG.2, col.5, lines 38-65, *generating and displaying*).

As per claim 3, Robertson '895 teaches the information processing apparatus according to claim 1 wherein each intermediate data generating means operates under control of said first means, to generate and renew pieces of intermediate data for displaying a particular linked content of the information object, and each display image generating means operates simultaneously with each respective intermediate data generating means for the particular linked content of the information object under control of said second means, to generate a display image of the particular linked content of the information object from said generated and renewed intermediate pieces of intermediate data (FIG.9, col.8, lines 31-39 *graphical object control*) .

As per claim 4, Robertson '895 teaches the information processing apparatus according to claim 1 wherein said holding means holds a plurality of information object content type specific data processing means, each information object content type specific data processing means including at least intermediate data generating means for generating intermediate data of a particular content type of a particular linked content item of an information object and display image generating means for generating a display image for the piece of intermediate data of the particular content type of the particular linked content item of the information object (FIG.9, *content part*, col.8, lines 40-48).

As per claim 6, Robertson '895 teaches the information processing apparatus according to claim 1 wherein each intermediate data generating means is implemented as program codes, and each display image generating means is implemented as program codes; and said apparatus further comprises data capturing means for capturing said intermediate data generating program codes and said display image generating program codes into said holding means from an external device or a communication line (col.13 line 10- col.14, line 7, *program code instructions*).

As per claim 7, Robertson '895 teaches the information processing apparatus according to claim 1 further comprising: visual field data managing means for smoothly changing said visual field data according to an input command and display means for displaying the generated display images of said particular linked content item of the information object (Figs. 1 and 6; col.4, lines 50-52; col.7, lines 41-46).

As per claim 8, Robertson teaches the information processing apparatus according to claim 1 further comprising: means for assigning a display priority to each of said plurality of linked content of information objects (Robertson '895 col.7, lines 37-60, *display priority indicated by page sequence*) and changing the display priority of a particular linked content item of an information object based upon the geometric relation between said visual field and said particular linked content item of the information object (Robertson '243; figs. 1-6; col. 1, lines 48-64; col. 2, lines 1-27); said first means comparing said display priority of a particular linked content of information object with a predetermined threshold to thereby determine to generate a piece of the intermediate data of said particular linked content of information object; said second means comparing said display priority of said particular linked content of information object with a predetermined threshold to thereby determine whether to generate a display image of said particular information object (col.5, lines 12-21, *predetermined context dependent*).

As per claim 10, Mickinlay and Robertson teaches the information processing apparatus according to claim 1 wherein each display image generating means determines a form in which a generated display image is displayed, according to a particular linked content item display priority based upon the geometric relation between said visual field and the particular linked

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content (Mickinlay; figs. 15 and 16; col. 3, lines 43-57; col. 11, lines 20-30 and lines 57-67; col. 12, lines 20-55) (Robertson '243; figs. 1-6; col. 1, lines 48-64; col. 2, lines 1-27).

As per claim 11, Robertson teaches the information processing apparatus according to claim 1 wherein display priorities are assigned to respective ones of said plurality of linked content of information object, and when a display image of a particular linked content of information object is to be displayed, corresponding one of display image generating means determines a form in which said display image of said particular linked content of information object is to be displayed, in accordance with the display priority of said particular linked content of information object (Robertson '895; col.7, lines 37-60, *display priority indicated by page sequence*) and wherein the display priority of a particular linked content item of an information object is changed based upon the geometric relation between said visual field and said particular linked content item of the information object (Robertson '243; figs. 1-6; col. 1, lines 48-64; col. 2, lines 1-27).

As per claim 13, Robertson teaches the information processing apparatus according to claim 1 further comprising: third means for selecting, based upon a linked content item display priority, one of plurality of linked content of information objects as a representative linked content of information object defining said visual field by defining a geometric relation of said representative linked content of information object to said visual field, and changing the display priority of a particular linked content item of an information object based upon the geometric relation between said visual field and said particular linked content item of the information object (Robertson '243; figs. 1-6; col. 1, lines 48-64; col. 2, lines 1-27); said third means altering said representative linked content item, without changing the geometric relations of said plurality



of linked content information object to said visual field, as said visual field shifts in said virtual space (Robertson '895; col5, lines 50-65, *page object is representation*) ; said first means traversing linkages between said plurality of linked content information object, starting with said representative linked content item, to thereby determine whether to generate a piece of intermediate data of a particular linked content of the information object (Robertson '895; col.5, line 66-col.6, line 8, *traverses page objects*).

As per claim 14, Robertson '895 teaches the information processing apparatus according to claim 13, said third means selects one of said plurality of linked content of the information object having a highest display priority as said representative linked content item (col.7, lines 37-60, *display priority indicated by page sequence*).

Claims 15-18, 20-22 and 24 are similar in scope to claims 1-4, 8-9, 11 and 13 respectively, and therefore are rejected under similar rationale.

Claim 25 and 26 are rejected under the same rationale as claim 1.

Claims 5, 9, 12, 19 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robertson et al. ("Robertson", US 6,486,895), Mackinlay (U.S. Pat. No. 6,088,032), Robertson et al. ("Robertson" U.S. 5,295,243), and Gounares et al. ("Gounares", US 6,681,370).

As per claim 5, the modified Robertson '895 teaches the information processing apparatus according to claim 1 wherein said holding means holds in an executable manner a plurality of different data processing means specific to said linked content items of different content type of the information object, each data processing means including corresponding one of said intermediate data generating means for generating a piece of intermediate data for a

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content type of a particular linked content items of the information object, corresponding one of said display image generating means, corresponding content data capturing means specific to said content type of the particular linked content item of the information object for capturing content data of said particular content type of the content item of the information object (“Robertson ‘895”, FIG.2, step 202, *generate page objects for each web page*, col.5, lines 50-52). The modified Robertson ‘895 does not specifically teach a data deleting means specific to content type of the particular linked content item of the information object for deleting generated piece of intermediate data in a said memory. Gounares teaches a method of information synchronization, wherein a data deleting means specific to content type for deleting generated data in a data memory (col.15, lines 35-41, *deleting data content*). It would have been obvious to an artisan at the time of the invention to combine Gounares’ teaching with the apparatus of the modified Robertson ‘895 because it allows for flexibility by providing document change and update capabilities.

As per claim 9, the modified Robertson ‘895 teaches the information processing apparatus according to claim 1, comprises managing data for a plurality of linked content of information object (Robertson ‘895 FIG.1, col.4, lines 50-52, *internal memory*), and means for assigning display priorities to respective ones of said plurality of linked content of information objects (Robertson ‘895; col.7, lines 37-60, *display priority indicated by page sequence*) and changing the display priority of a particular linked content item of an information object based upon the geometric relation between said visual field and said particular linked content item of the information object (Robertson ‘243; figs. 1-6; col. 1, lines 48-64; col. 2, lines 1-27); said first means comparing said display priority of a particular linked content of information object with a

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predetermined threshold to thereby determine whether to generate or renew pieces of intermediate data of said particular information object, said first means causing corresponding one of said intermediate data generating means to generate or renew said pieces of intermediate data of said particular linked content of information object when the display priority of said particular linked content of information object is higher than the predetermined threshold (Robertson '895; col.5, lines 12-21, *predetermined context dependent*); the modified Robertson '895 does not specifically teach a data deleting means for deleting generated data in a data memory. Gounares teaches said first means causing corresponding one of said data deleting means to delete said intermediate data of said particular linked content of information object in said memory when the display priority of said particular information object is lower than a predetermined threshold; said first means deleting the managing data of said particular linked content of information object in said memory when the display priority of said particular information object is lower than a predetermined threshold (col.15, lines 35-41, *deleting data content*). It would have been obvious to an artisan at the time of the invention to combine Gounares' teaching with the apparatus of the modified Robertson '895 because it allows for flexibility by providing document change and update capabilities.

As per claim 12, the modified Robertson '895 teaches the information processing apparatus further comprising: a memory region of said memory for storing therein display data including intermediate data for displaying said plurality of linked content of information objects (FIG.1, col.4, lines 50-52, *internal memory*), but do not teach a memory managing means for deleting data in memory region. However, Gounares teaches memory managing means for detecting an amount of said memory region occupied by said display data and time-sequentially

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deleting at least part of intermediate data in said memory region which has not been used for display image generation for the longest time (col. 15, lines 35-41, *deleting data content*). It would have been obvious to an artisan at the time of the invention to combine Gounares' teaching with the apparatus of the modified Robertson '895 because it allows for flexibility by providing document change and update capabilities.

Claim 19 is similar to claim 5 and therefore is rejected under similar rationale.

Claim 23 is similar to claim 12 and therefore is rejected under similar rationale.

#### ***Response to Arguments***

Applicant's arguments with respect to the amendment have been considered but are moot in view of the new ground(s) of rejection.

#### ***Inquiries***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh T. Vu whose telephone number is (571) 272-4073. The examiner can normally be reached on Mon-Thur and every other Fri 7:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine L. Kincaid can be reached on (571) 272-4063. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

T. Vu



T. VU  
PRIMARY EXAMINER